

THAT WHICH IS CLAIMED:

1. A dry end section for a paper-making machine for producing a high-bulk tissue, said machine comprising:

a through-air dryer adapted to finally dry a paper web;

a through-air drying fabric configured to transport the web through the through-air dryer;

a separating device for separating the web from the through-air drying fabric, the separating device being configured to receive the web directly thereon;

a reel having a reel drum disposed adjacent thereto so as to form a reel-up for receiving the web from the separating device; and

a non-contacting support system disposed between the separating device and the reel-up, the non-contacting support system being configured to receive the web directly from the separating device and to transport the web directly to the reel-up.

2. A dry end section according to Claim 1 wherein the non-contacting support system comprises at least one active air foil device.

3. A dry end section according to Claim 1 further comprising a web-compressing device disposed between the separating device and the reel-up and configured to compress the web.

4. A dry end section according to Claim 3 wherein the web-compressing device comprises a pair of adjacently-disposed rolls defining a nip, the web being directed through the nip before being received by the reel-up.

5. A dry end section according to Claim 1 wherein the separating device is selected from the group consisting of a suction-configured reel drum and a suction roll.

6. A dry end section according to Claim 1 wherein the separating device comprises a roll having a perforated mantle and a suction device disposed within the mantle in spaced apart relation with respect thereto, the suction device being configured to selectively provide a suction zone about the mantle.

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7. A dry end section according to Claim 6 wherein the suction device is adjustably disposed within the mantle.

8. A dry end section according to Claim 6 wherein the mantle defines an axis and the suction device is disposed within the mantle so as to be rotatable about the axis.

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9. A dry end section according to Claim 1 wherein the separating device is configured to provide an adjustable suction for separating the web from the through-air drying fabric.

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10. A dry end section according to Claim 1 further comprising an air emission arrangement disposed adjacent to the separating device and configured to facilitate separation of the web from the through-air drying fabric.

11. A method for making a tissue with enhanced tactile quality and facilitating reel-up of the tissue in a dry end of a tissue paper-making machine, said method comprising:

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finally drying a tissue web on a through-air drying fabric with a through air dryer; separating the tissue web from the through-air drying fabric with a separating device such that the tissue web is received directly on the separating device;

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transporting the tissue web from the separating device directly to a reel nip with a non-contacting support system, the reel nip being formed between reel and a reel drum disposed adjacent thereto; and

directing the tissue web through the reel nip so as to wind the tissue web onto the reel.

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12. A method according to Claim 11 wherein transporting the tissue web further comprises transporting the tissue web with a non-compacting support system comprising at least one active air foil device.

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13. A method according to Claim 11 wherein separating the tissue web from the through-air drying fabric further comprises separating the tissue web from the through-air drying fabric with a separating device selected from the group consisting of a suction-configured reel drum and a suction roll.

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14. A method according to Claim 11 further comprising directing the tissue web through a web-compressing device prior to directing the tissue web through the reel nip.

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15. A method according to Claim 14 wherein directing the tissue web through a web-compressing device further comprises directing the tissue web through a web-compressing device having a nip formed between adjacently-disposed rolls.

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16. A method according to Claim 11 wherein separating the tissue web from the through-air drying fabric further comprises separating the tissue web from the through-air drying fabric with a separating device configured to apply suction to the tissue web.

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17. A method according to Claim 16 wherein separating the tissue web from the through-air drying fabric with a separating device configured to apply suction to the tissue web further comprises applying a greater suction to the tissue web when the tissue web is first separated from the through-air drying fabric and then applying a lesser suction to the tissue web thereafter.

18. A method for making a tissue with enhanced tactile quality and facilitating reel-up of the tissue in a dry end of a tissue paper-making machine, said method comprising:

5 finally drying a tissue web, having a basis weight of between about 10 g/m² and about 50 g/m², on a through-air drying fabric with a through air dryer, the web having a dry caliper of between about 0.2 mm and about 0.5 mm and, therefore, a density of between about 20 kg/m³ and about 250 kg/m³;
separating the tissue web from the through-air drying fabric with a separating
10 device such that the tissue web is received directly on the separating device;
transporting the tissue web from the separating device directly to a reel nip with a non-contacting support system comprising at least one active air foil device, the reel nip being formed between reel and a reel drum disposed adjacent thereto; and
15 directing the tissue web through the reel nip so as to wind the tissue web onto the reel.

19. A method according to Claim 18 further comprising directing the tissue web through a web-compressing device having a nip formed between adjacently-disposed
20 rolls so as to reduce the dry caliper of the web by between about 20% and about 50% prior to directing the tissue web through the reel nip.

20. A method according to Claim 18 further comprising directing the tissue web through a web-compressing device having a nip formed between adjacently-disposed
25 rolls so as to reduce the dry caliper of the web to between about 0.15 mm and about 0.4 mm, so as to provide a post-compression density of between about 25 kg/m³ and about 333.3 kg/m³, prior to directing the tissue web through the reel nip.